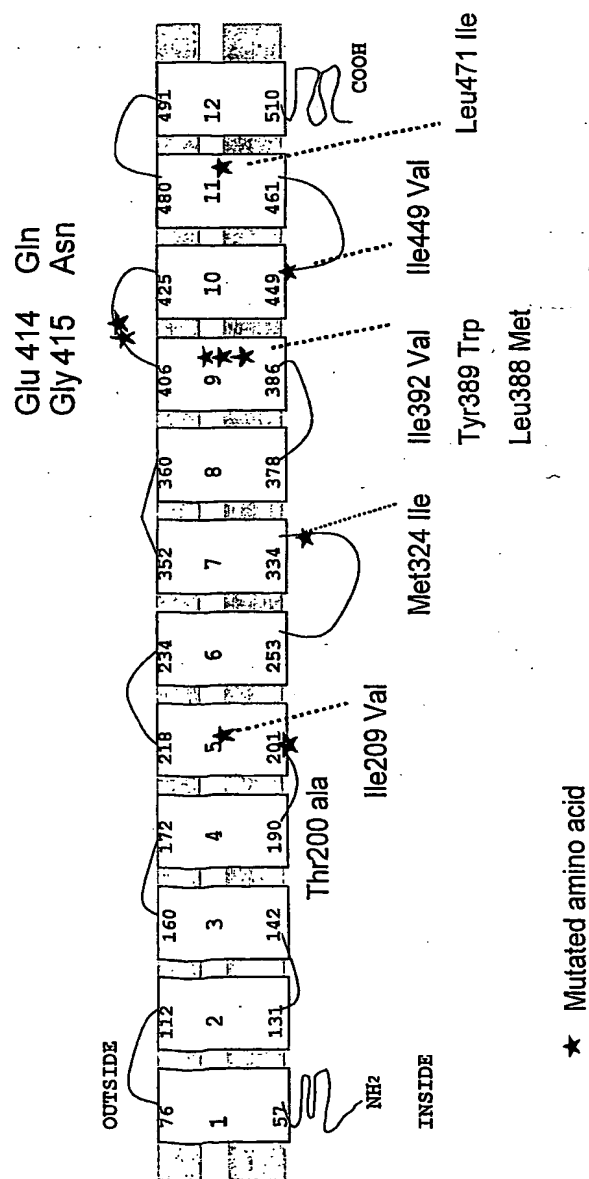
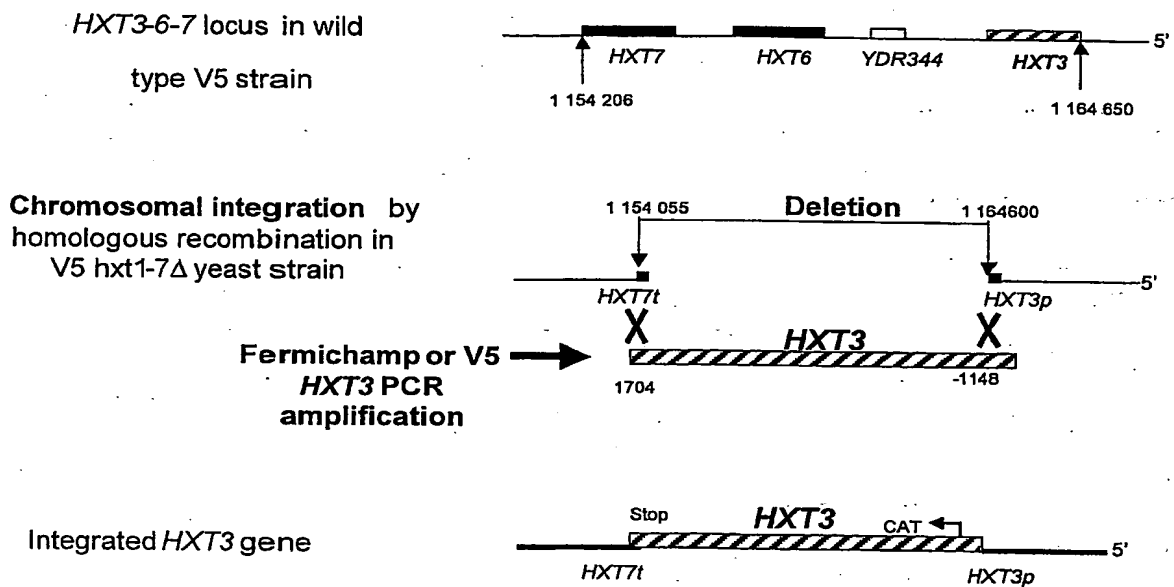


Figure 1: Localisation of mutations in Fermichamp HXT3



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Figure 2A Construction of V5 strains with integrated *HXT3* genes*HXT3* integration in V5 *hxt1-7Δ* strain

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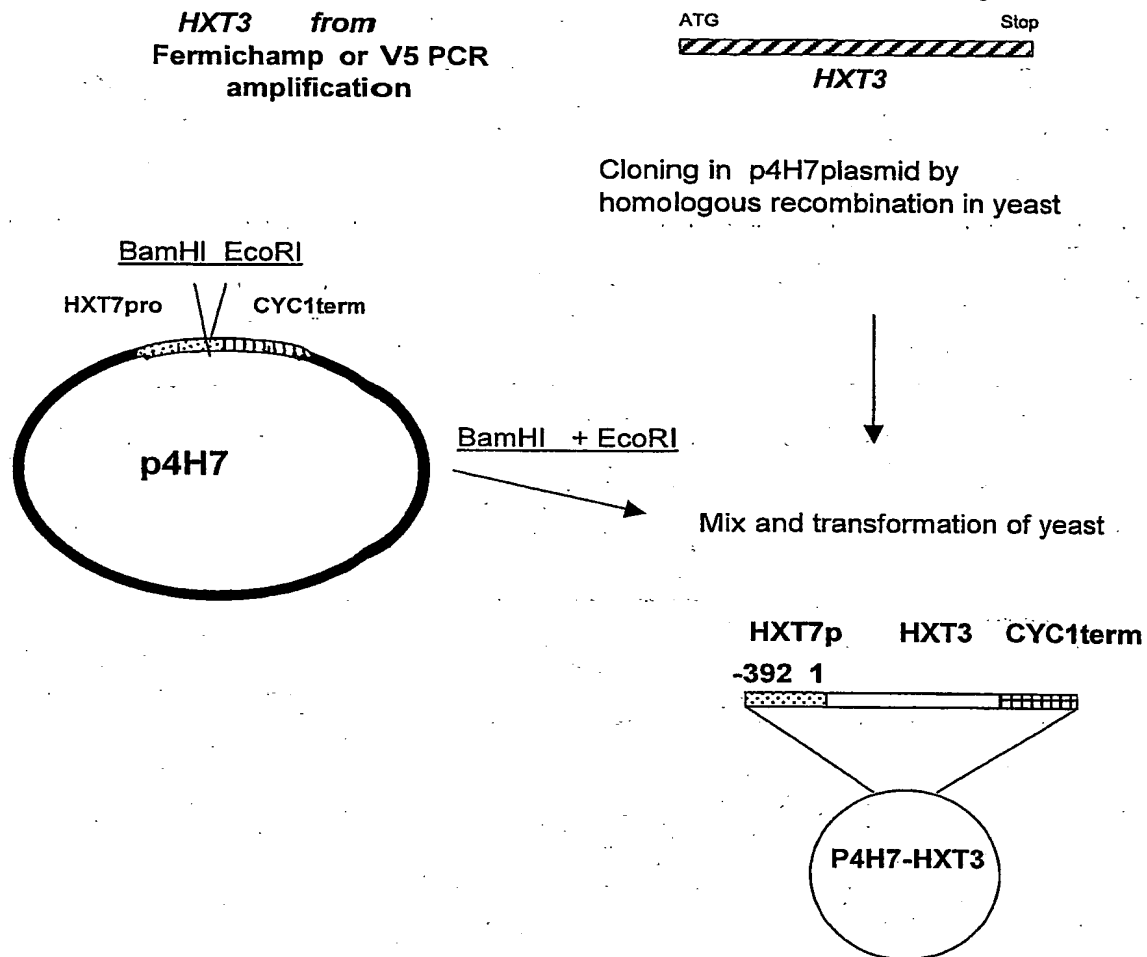
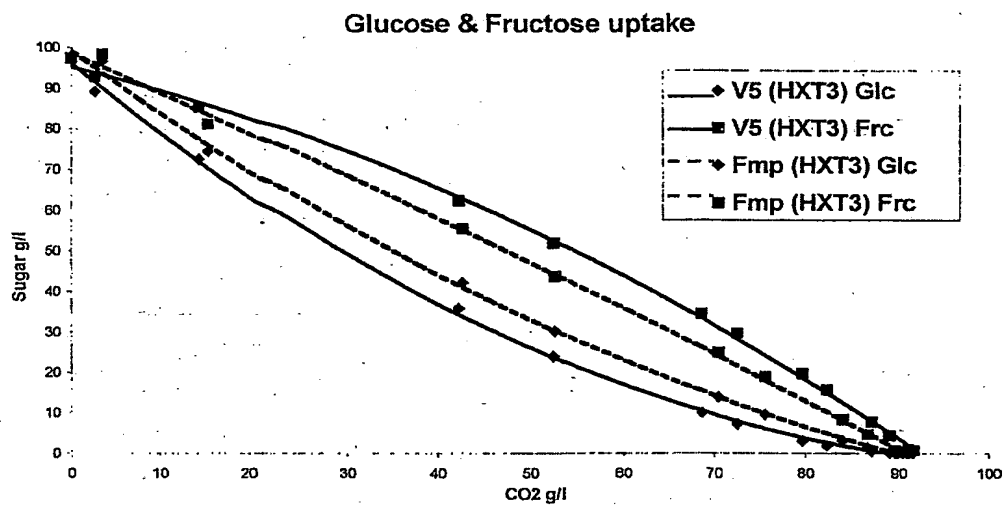
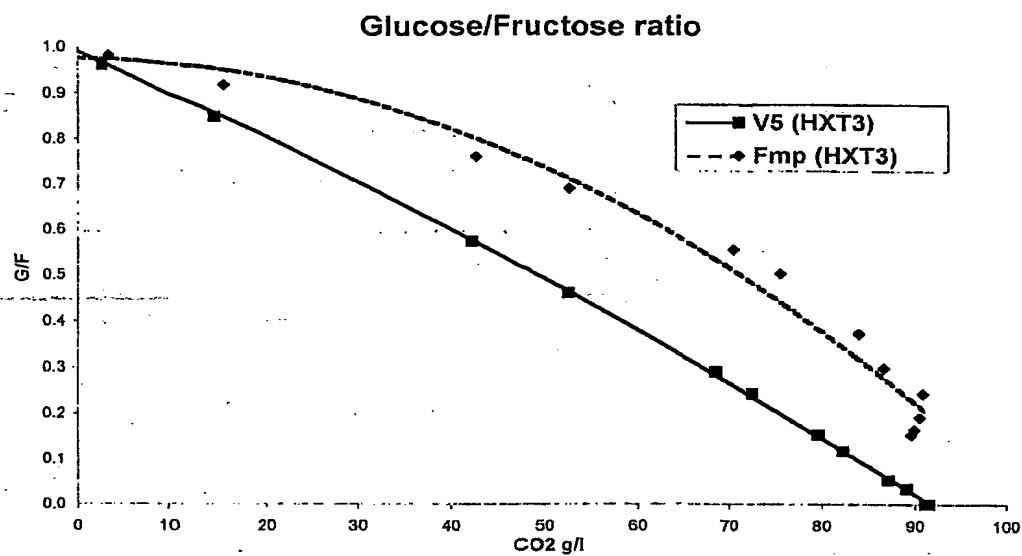
Figure 2B: *HXT3* ORF cloning in multicopy plasmid p4H7

Figure 3A glucose and fructose utilisation by *HXT3* (V5 or Fmp) single copy gene expression



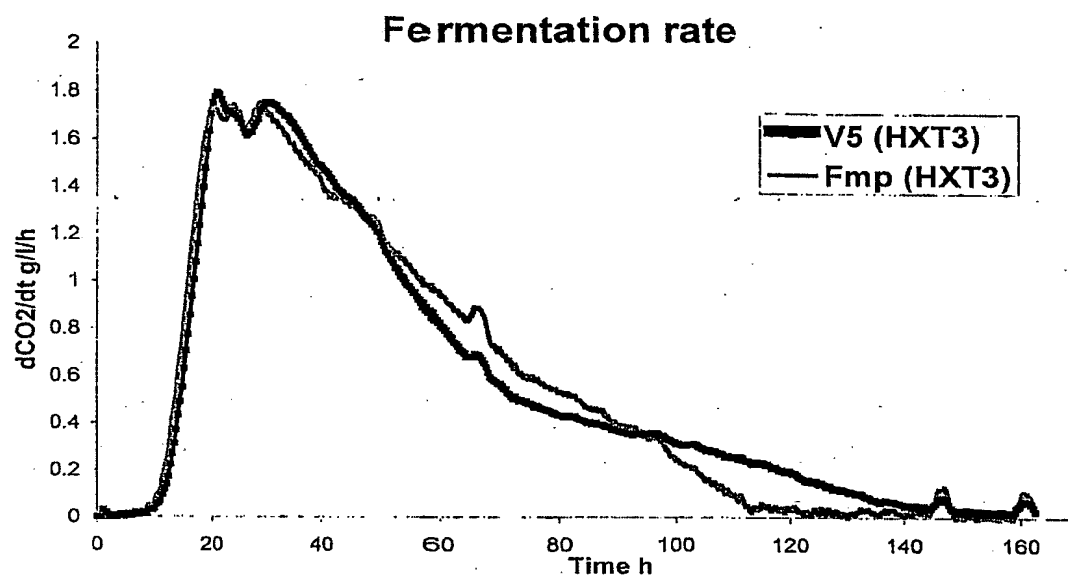
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Figure 3B: glucose/fructose ratio of *HXT3* (V5 or Fmp) single copy gene expression



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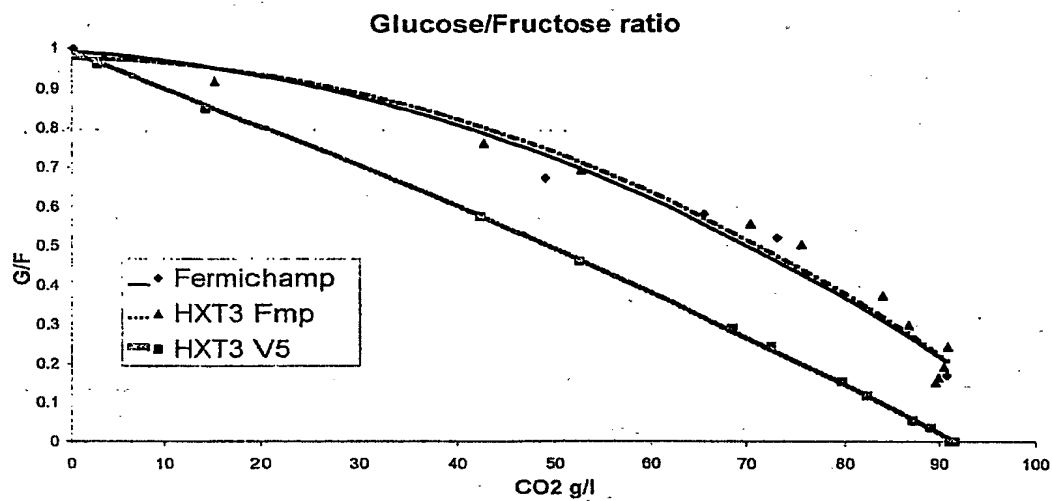
Figure 3C : fermentation rate of *HXT3* (V5 or Fmp) single copy gene expression



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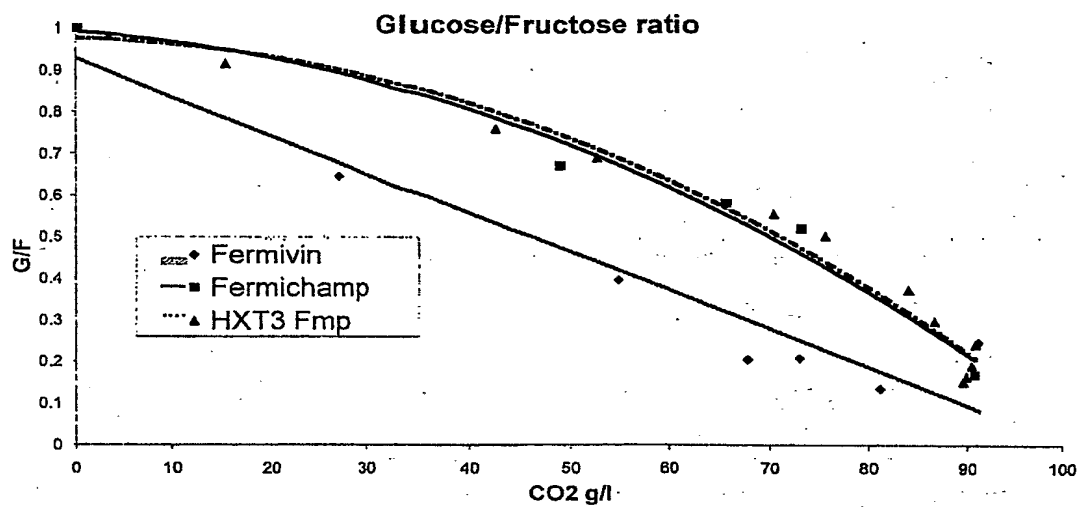
Figure 3D

Comparison of Glucose / Fructose ratio between Fermichamp & *HXT3* (V5 or Fmp) single copy gene expression



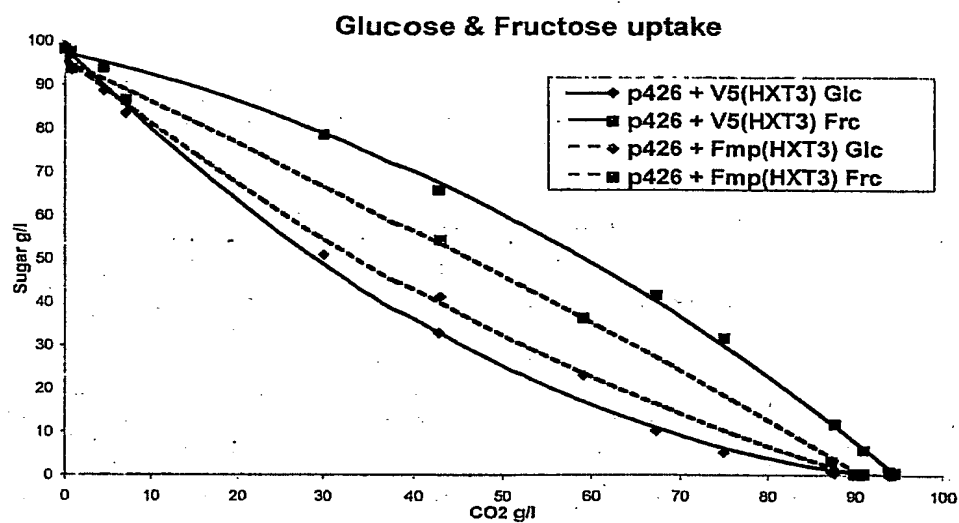
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Figure 3 E: Comparison of Glucose / Fructose ratio between Fermichamp, Fermivin & *HXT3 Fmp* single copy gene expression



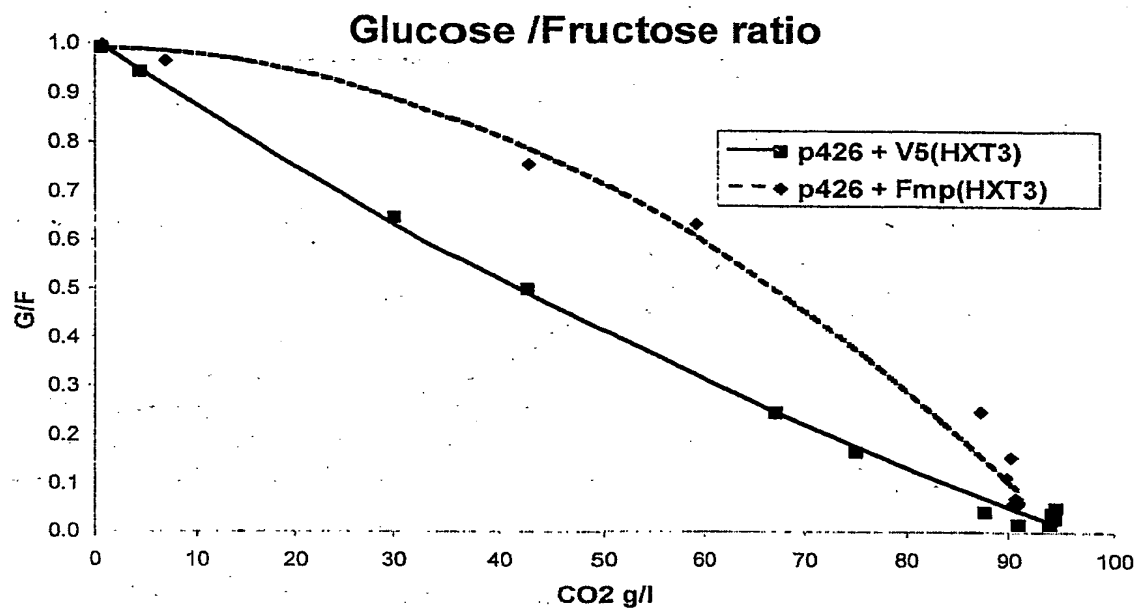
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Figure 4A : glucose and fructose utilisation by multicopy overexpression of *HXT3* (V5 or Fmp)



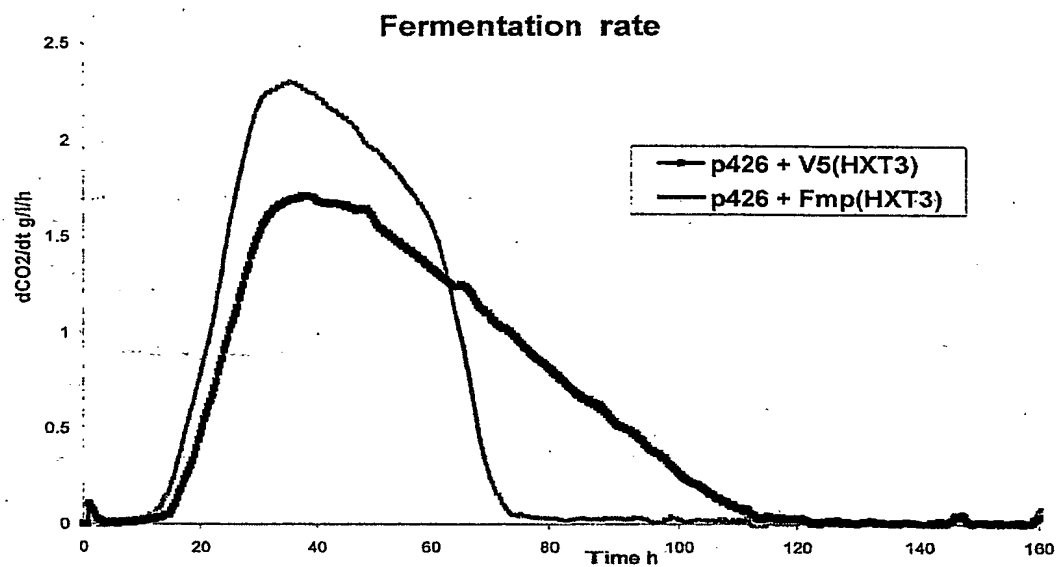
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Figure 4B : glucose/fructose ratio by multicopy overexpression of *HXT3* (V5 or Fmp)



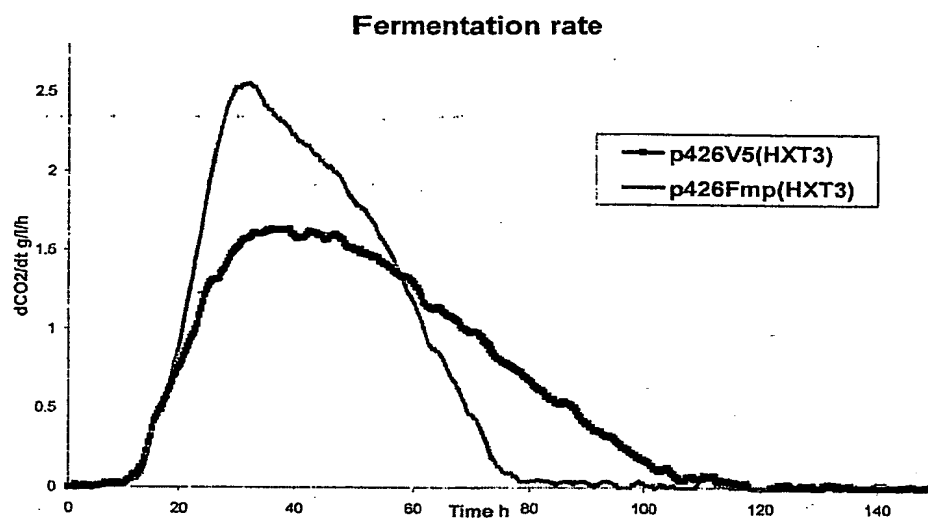
11/25

Figure 5 : Multicopy overexpression of *HXT3* (V5 or Fmp) on Glucose + Fructose (50/50) must (200g/l)



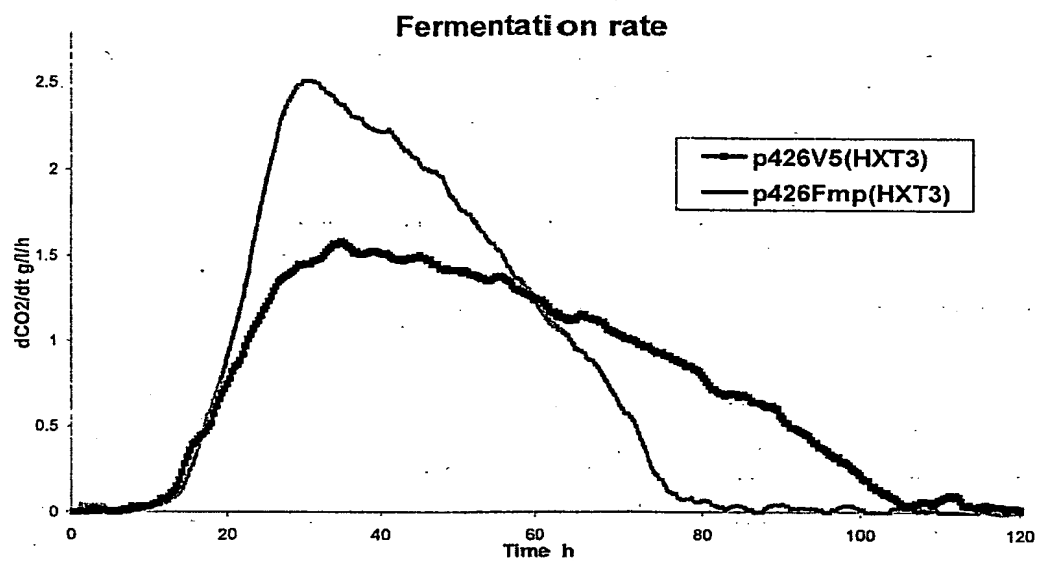
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Figure 6A : Multicopy overexpression of *HXT3* (V5 or Fmp) on pure Fructose must (200g/l)



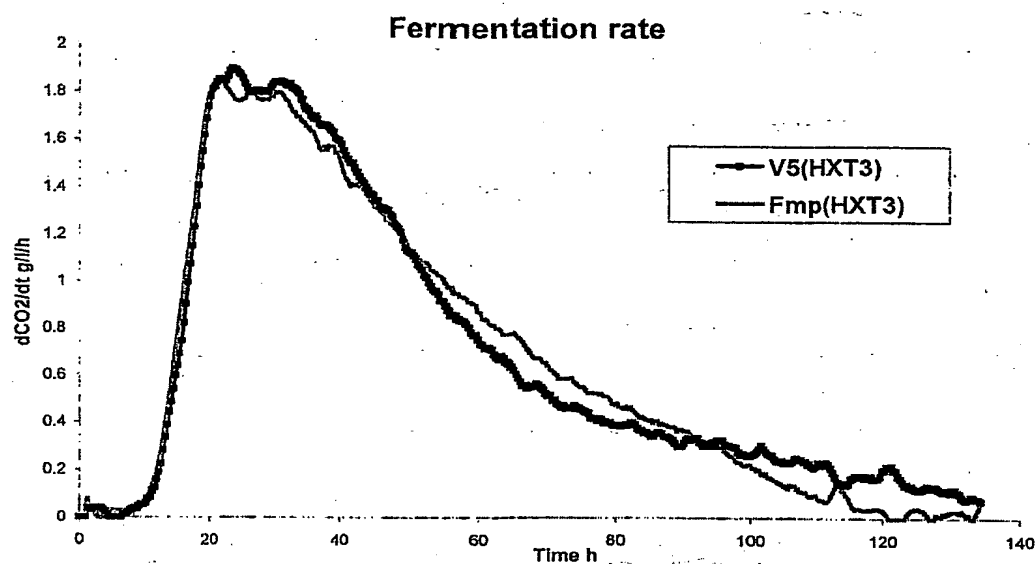
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Figure 6B : Multicopy overexpression of *HXT3* (V5 or Fmp) on pure Glucose must (200g/l)



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Figure 7A : Single copy expression of *HXT3* (V5 or Fmp) on pure Fructose must (200g/l)



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Figure 7B : Single copy expression of *HXT3* (V5 or Fmp) on pure Glucose must (200g/l)

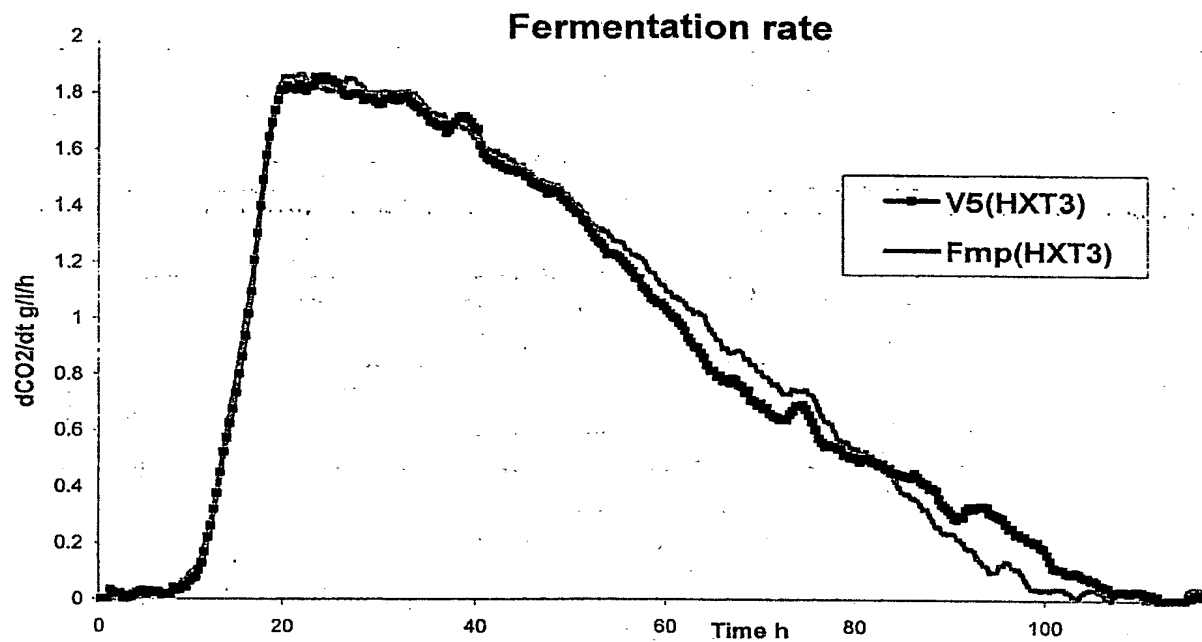


Figure 8: Construction of strains that contain a single, inactive, HXT3 gene, general scheme of strains construction

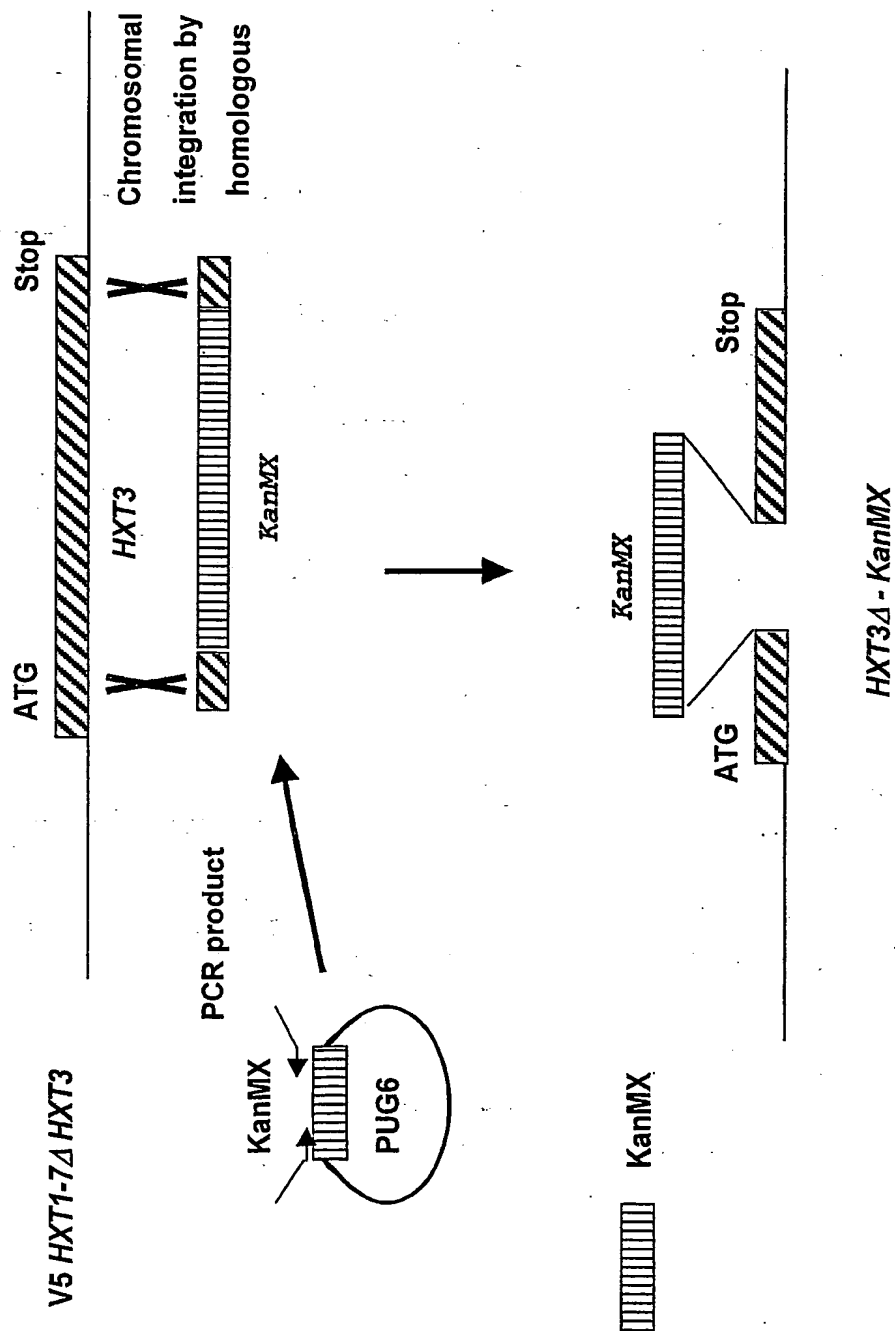


Figure 9: Constructed strains comprising a single, inactive *HXT3* gene

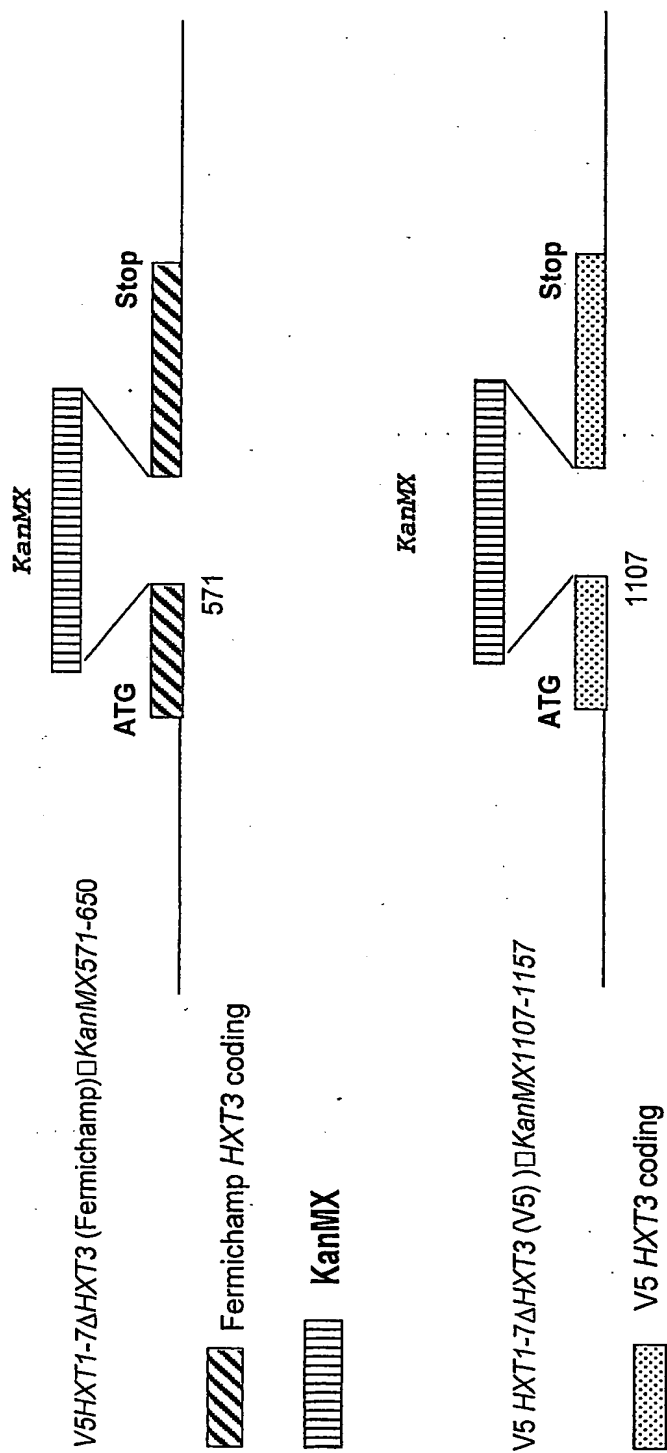
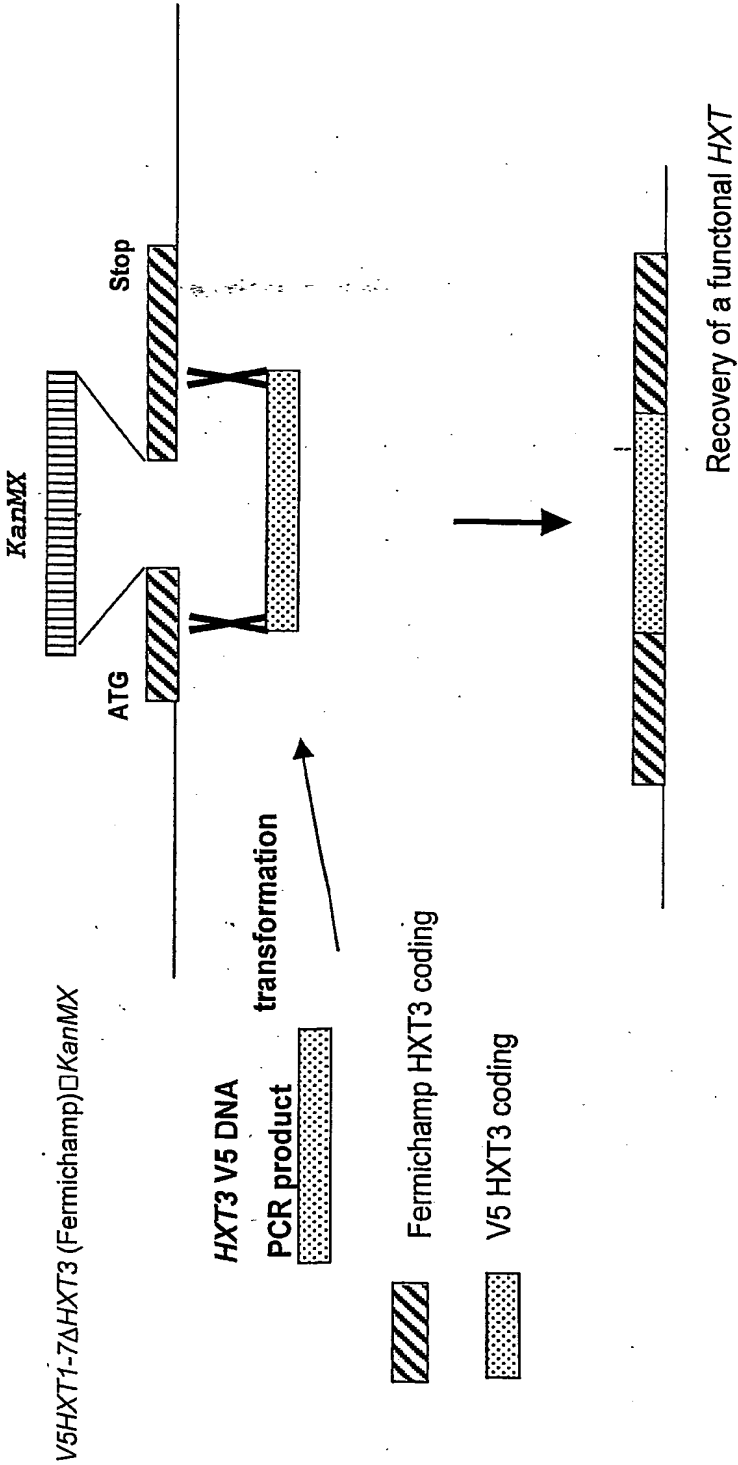


Figure 10: Construction of strains expressing HXT3 chimera: principle of construction



Clones with HXT3 chimera are selected on glucose
Growth on glucose is restored

Figure 11: Chimeric HXT3 proteins expressed

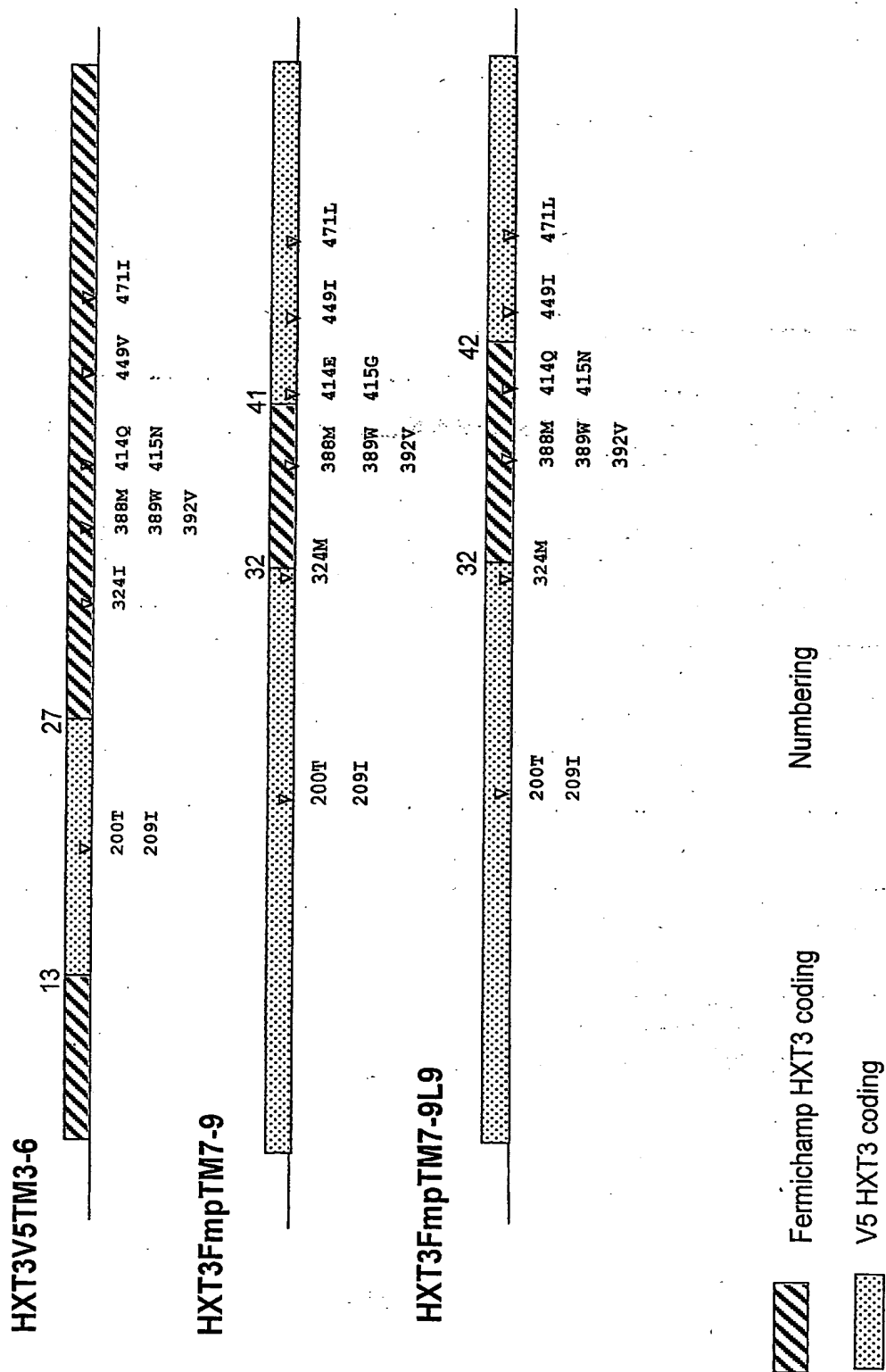


Figure 12: Mutated HXT3 Fermichamp proteins (point mutations)

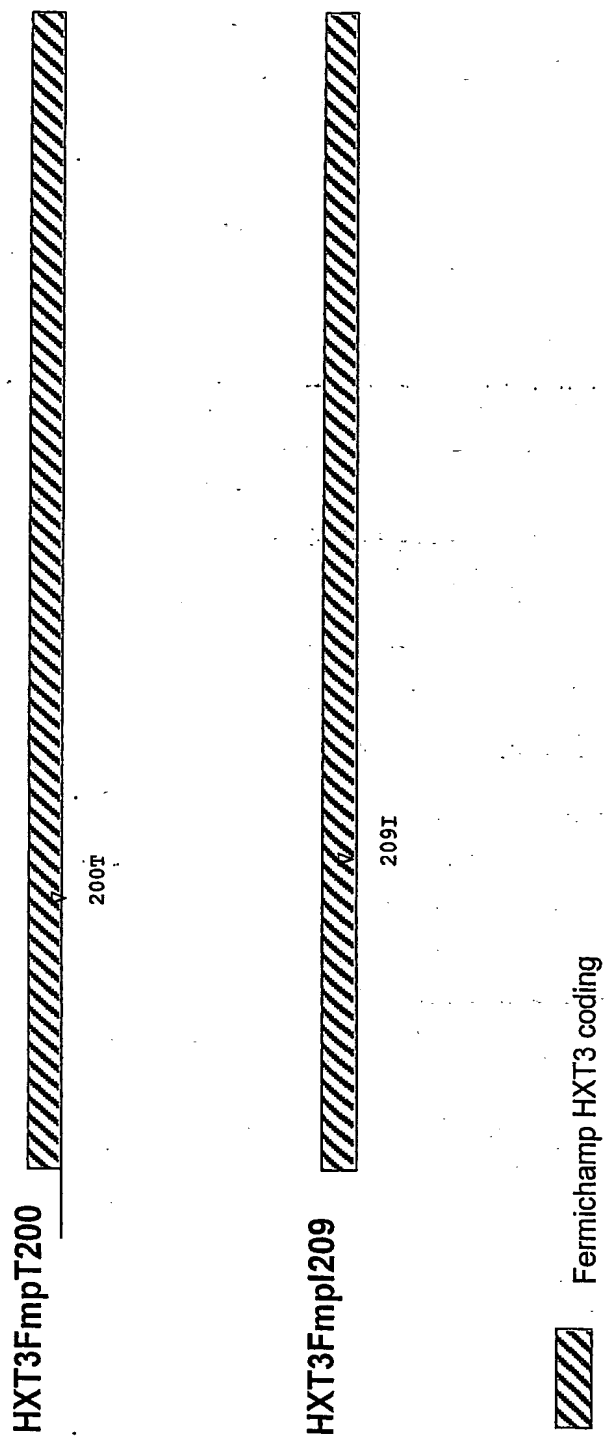


Figure 13: Glucose-Fructose ratio evolution during alcoholic fermentation

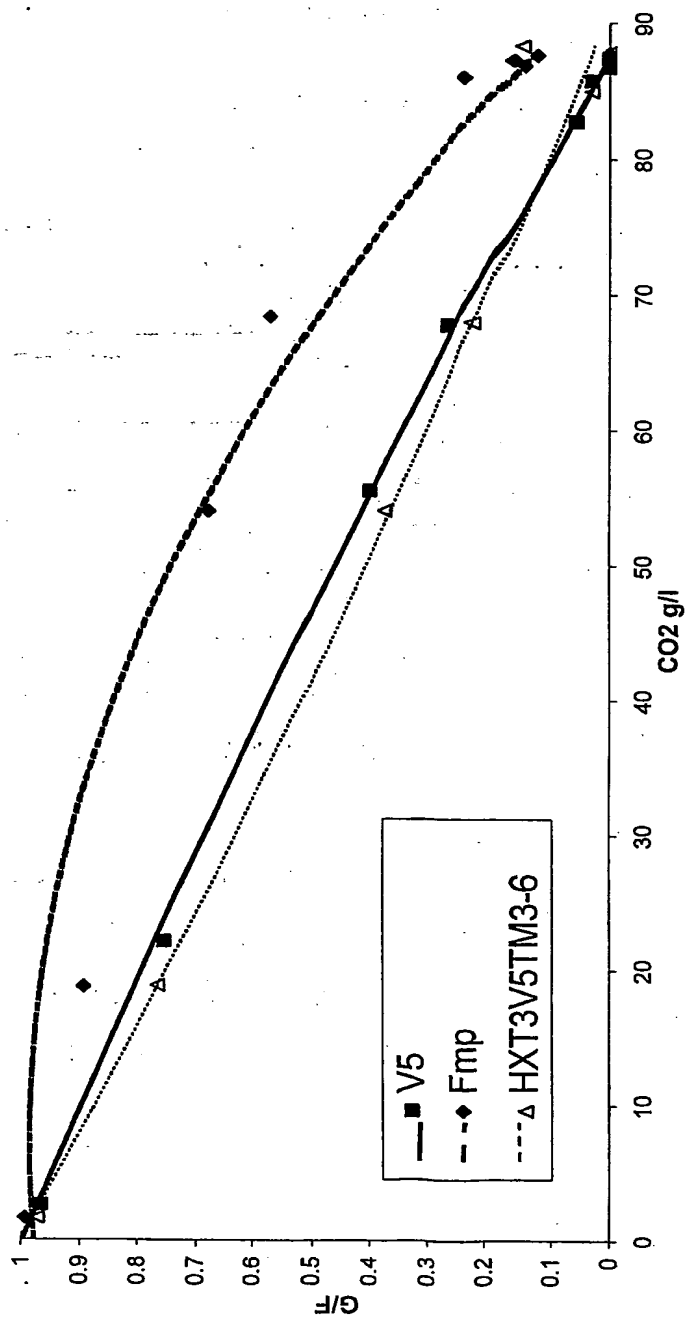


Figure 14: Glucose / Fructose ratio evolution during alcoholic fermentation

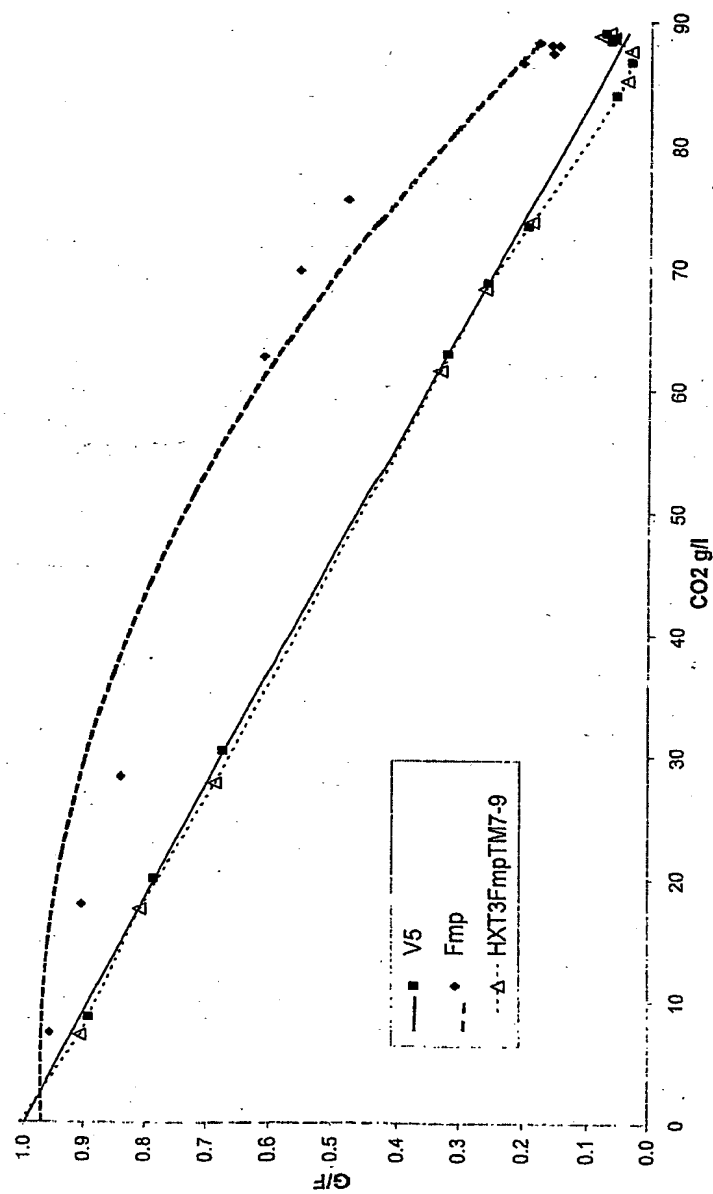


Figure 15: Glucose/Fructose ratio evolution during alcoholic fermentation

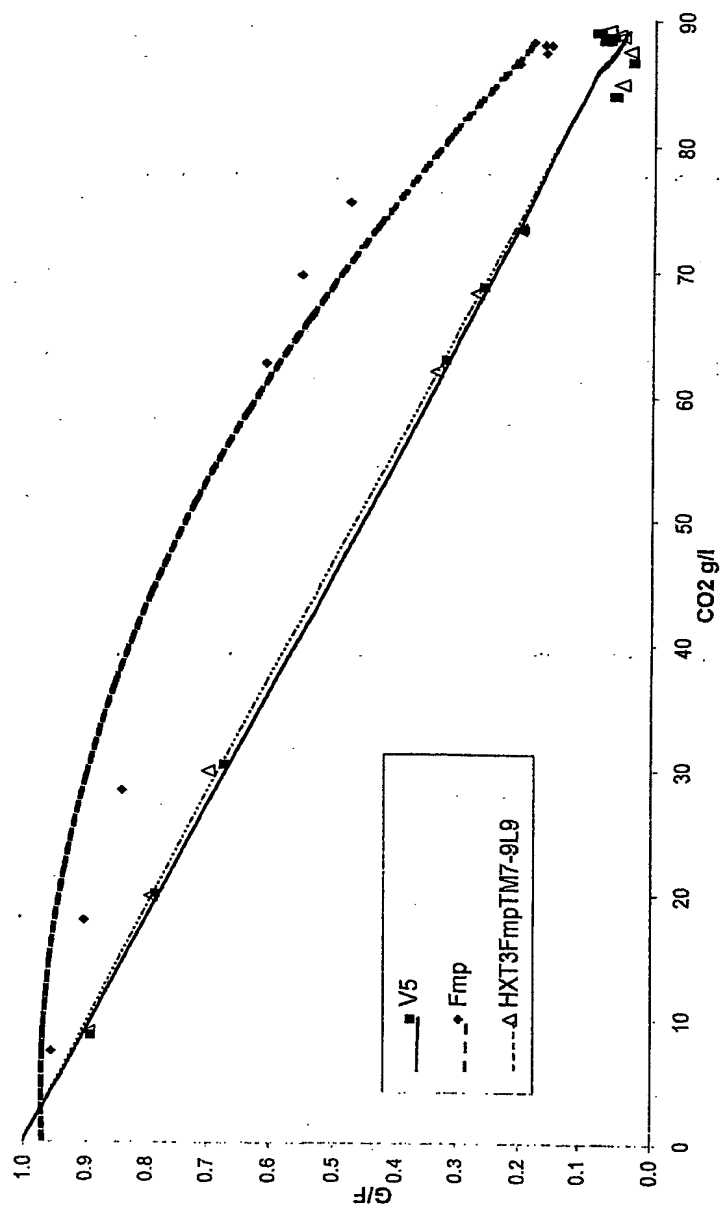


Figure 16: Glucose/Fructose ratio evolution during alcoholic fermentation

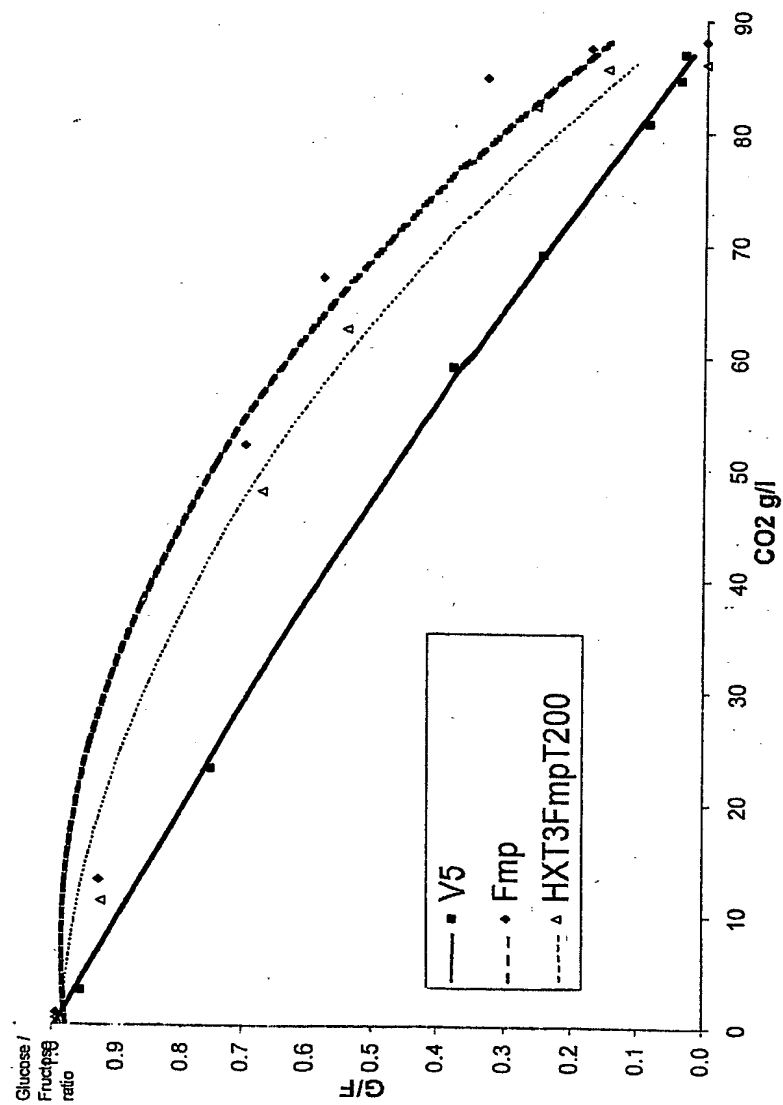


Figure 17: Glucose/Fructose ratio evolution during alcoholic fermentation

